

CLAIMS

What is claimed is:

1. A method comprising:

providing a 4-substituted-*o*-xylene;

brominating the 4-substituted-*o*-xylene to form a 4-substituted-1,2-bis(dibromomethyl)benzene;

introducing a sulfuric acid into the 4-substituted-1,2- bis(dibromomethyl)benzene

reacting the sulfuric acid and the 4-substituted-1,2- bis(dibromomethyl)benzene to form a reaction product;

introducing a solid sodium bicarbonate into the reaction product;

introducing water into the reaction product after introducing the solid sodium bicarbonate; and

hydrolyzing the reaction product with the water to form a 4-substituted-benzene-1,2-carbaldehyde.
2. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 1.
3. The method of claim 1, wherein introducing the sulfuric acid comprises introducing a sufficient amount of the sulfuric acid to give a mole ratio of the sulfuric acid to the 4-substituted-1,2- bis(dibromomethyl)benzene that is from 10:1 to 14:1.

4. The method of claim 1, wherein introducing the sodium bicarbonate comprises introducing a sufficient amount of the sodium bicarbonate to give a mole ratio of the sodium bicarbonate to the 4-substituted-1,2- bis(dibromomethyl)benzene that is from 5:1 to 11:1.
5. The method of claim 1, wherein introducing the water comprises introducing ice.
6. The method of claim 1, wherein providing the 4-substituted-o-xylene comprises providing a 4-substituted-o-xylene that is selected from the group consisting of 4-fluoro-o-xylene, 4-chloro-o-xylene, 4-bromo-o-xylene, and 4-nitro-o-xylene.
7. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 6.
8. A method comprising:

brominating a 4-substituted-o-xylene to form a 4-substituted-1,2-bis(dibromomethyl)benzene;

reacting the 4-substituted-1,2-bis(dibromomethyl)benzene with sulfuric acid to form a reaction product;

introducing a solid sodium bicarbonate into the reaction product; and

hydrolyzing the reaction product to form a 4-substituted-benzene-1,2-carbaldehyde after introducing the bicarbonate.
9. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 8.
10. The method of claim 8, further comprising introducing a sufficient amount of the sulfuric acid to give a mole ratio of the sulfuric acid to the 4-substituted-1,2-bis(dibromomethyl)benzene that is from 10:1 to 14:1.

11. The method of claim 8, wherein introducing the sodium bicarbonate comprises introducing a sufficient amount of the sodium bicarbonate to give a mole ratio of the sodium bicarbonate to the 4-substituted-1,2- bis(dibromomethyl)benzene that is from 5:1 to 11:1.
12. The method of claim 8, wherein the 4-substituted-o-xylene comprises a 4-substituted-o-xylene that is selected from the group consisting of 4-fluoro-o-xylene, 4-chloro-o-xylene, 4-bromo-o-xylene, and 4-nitro-o-xylene.
13. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 12.
14. A method comprising:

reacting a 4-substituted-1,2- bis(dibromomethyl)benzene with sulfuric acid to form a reaction product;

introducing a solid sodium bicarbonate into the reaction product; and

hydrolyzing the reaction product to form a 4-substituted-benzene-1,2-carbaldehyde, after introducing the bicarbonate.
15. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 14.
16. The method of claim 14, further comprising introducing a sufficient amount of the sulfuric acid to give a mole ratio of the sulfuric acid to the 4-substituted-1,2-bis(dibromomethyl)benzene that is from 10:1 to 14:1.
17. The method of claim 14, wherein introducing the sodium bicarbonate comprises introducing a sufficient amount of the sodium bicarbonate to give a mole ratio of the sodium bicarbonate to the 4-substituted-1,2- bis(dibromomethyl)benzene that is from 5:1 to 11:1.

18. The method of claim 14, wherein the 4-substituted-o-xylene comprises a 4-substituted-o-xylene that is selected from the group consisting of 4-fluoro-o-xylene, 4-chloro-o-xylene, 4-bromo-o-xylene, and 4-nitro-o-xylene.
19. A 4-substituted-benzene-1,2-carbaldehyde produced by the method of claim 18.